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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,614	07/11/2003	Viacheslav Ivanovych Adamchuk	16363-US	2903

7590 06/15/2005

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EXAMINER

DAVIS, OCTAVIA L

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/617,614

Applicant(s)

ADAMCHUK ET AL.

Examiner

Octavia Davis

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*[Handwritten signature]*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 5/9/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/11/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/6/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

#### *Allowable Subject Matter*

2. The indicated allowability of claim 11 is withdrawn in view of the newly discovered references to Upadhyaya et al. Rejections based on the newly cited references follow.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 3, 5 and 8 - 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Upadhyaya et al.

Regarding claim 1, Upadhyaya et al disclose soil profile force measurement using an instrumented tine comprising a soil engaging tillage implement 10, load cells 22 mounted to the soil engaging implement that determine a linear trend of topsoil resistance pressure change with depth as the implement is drawn through the soil and that measure torque on

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the implement (see Col. 4, lines 50 – 67 and Col. 5, lines 1 – 9 and 19 – 41, See Figs. 1 and 5 ).

Regarding claim 2, the implement 10 has an upper end mounted to a support structure 12, a lower end 18, a point for engaging the soil, a leading edge 16 and a protecting member 14 mounted to the leading edge (See Col. 4, lines 50 – 67).

Regarding claim 3, two of the sensors 22 are interposed between the protective member 14 and the leading edge 16 (See Fig. 1).

Regarding claim 5, the sensors 22 are mounted to the implement at different depths (See Cols. 5 and 20, lines 13 – 29 and 20 - 27).

Regarding claims 8, 10 and 11, the linear trend of topsoil resistance pressure change with depth and the torque on the soil engaging implement 10 are used to determine a measured and a predicted mechanical soil resistance to penetration applied to the point and the difference between the two values is an input for tillage depth adjustment (See Col. 6, lines 23 – 61, Col. 8, lines 1 – 12 and Col. 12, lines 53 - 61).

Regarding claim 9, a linear distribution of soil resistance pressure is calculated from a free body diagram based on load cell and depth measurements where  $y$  is the vertical coordinate with respect to the tip of the point. (See Col. 8, lines 18 – 64).

#### ***Allowable Subject Matter***

5. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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*Response to Arguments*

6. Applicant's arguments with respect to these claims have been considered but are moot in view of the new grounds of rejection.

7. Any inquiry concerning this communication should be directed to examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application where this application or proceeding is assigned is (703) 872 - 9306.



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6/6/05